

REMARKS

Restriction Requirement

The Examiner, under 35 U.S.C. § 121, restricted the claims to Group I claims (1-15) and Group II claims (16-23). Applicant made a provisional election with traverse to prosecute Claims 16-23. The Applicant now affirms this election, without traverse. Claims to the non-elected invention are herein cancelled.

New Claims

The Applicant, in lieu of amendments to the claims, presents the following new Claims 24-41 for prosecution. These claims do not present new matter, and are within the scope of the elected Claims 16-23. The derivation of each claim is set out below:

New Claim	Derivation in specification or original claims
24	Original Claim 16; p.8, lines 3 and 9 ("imine" and "iminophenoxide Group 4")
25	p.11, lines 14-31, and p.12, lines 1-13; p.6, lines 10-20, p.7, lines 1-24, p.8, lines 1-10 ("derivatives thereof")
26	Examples, p.26, lines 17-21.
27	Original Claim 17
28	Original Claim 18
29	page 26 (structures) and Examples; p.6, lines 10-20, p.7, lines 1-24, p.8, lines 1-10 ("derivatives thereof")
30	Original Claim 7; page 19, lines 26-28
31	Original Claim 20, page. 9, line 9 ("iminophenoxide Group 4"), Original Claims 17 and 18; p.19, lines 10-15 ("hydrocarbon diluent")
32	page 26, line 21; page 17, lines 15-30.
33	page 17, lines 5-6
34	Original Claim 16; p.8, lines 3 and 9 ("imine" and "iminophenoxide Group 4")
35	Original Claim 16
36	p.11, lines 14-31, and p.12, lines 1-13; p.6, lines 10-20, p.7, lines 1-24, p.8, lines 1-10 ("derivatives thereof")
37	Examples, p.26, lines 17-21.
38	Original Claim 17
39	Original Claim 18
40	page 26 (structures) and Examples; p.6, lines 10-20, p.7, lines 1-24, p.8, lines 1-10 ("derivatives thereof")
41	Original Claim 7; page 19, lines 26-28

It is hoped that the new claims will facilitate the prosecution and allowance of the claimed class of invention in Restricted Group II claims (original claims 16-23), as these new claims further describe and limit an embodiment of the invention.

Section 112 Rejection

The Examiner rejects Claims 16-19 and 21-23 under 35 U.S.C. § 112, second paragraph, as being indefinite. Due to the multiple nature of the rejections, the claims are cancelled, and new claims are presented with the changes incorporated therein.

Given the incorporation of the Examiner's comments into the new claims, the Applicant requests that this rejection be withdrawn.

First Section 103 Rejection

The Examiner rejects Claims 16-18, 20-22 under 35 U.S.C. § 103(a) as being unpatentable over each of *Bell I*, *Bell II*, and *Bell III*, and *Whiteker* in view of *Oi*. The Applicant traverses this rejection with the new Claims 24-41, which are amended relative to the original claims to overcome the art of record.

In particular, none of *Bell I*, *Bell II*, or *Bell III*, alone or in combination, disclose a "Group 4" metal compound, wherein " R^5 is an imine group bound to [the Group 4 metal]". The corresponding group in the *Bells* is R^2 , which is a hydrogen or an alkyl group, and the metal is tungsten.

Oi discloses compounds that consist of a Cp group bound to the phenoxide. Applicant's claimed invention does not encompass such structures.

Whiteker discloses a broad class of compounds that specifically excludes imines as making up either R^1 or R^5 of that structure (see col. 3, lines 56-62), wherein R^5 in Applicant's invention is an imine. Further, *Whiteker* does not disclose the supported activator of Applicant's invention. In fact, the example in *Whiteker* uses excess MAO in a slurry process, yielding only

slightly better activity for the catalyst compared to that demonstrated by Applicant's claimed catalyst composition.

Thus, no combination of the *Bells*, *Oi*, or *Whiteker* disclose every element of Applicant's invention. Further, given that the *Bell* disclosures are to the polymerization of DCPD using a quite distinct activator, there would be no motivation to combine this reference with either of *Oi* or *Whiteker*. The Applicant thus requests that this rejection be withdrawn.

Second Section 103 Rejection

The Examiner rejects Claims 16-18, 20-22 under 35 U.S.C. § 103(a) as being unpatentable over each of *Bell I*, *Bell II*, and *Bell III*, and *Whiteker* in view of *Oi*, and further in view of *Holtcamp*. The Applicant traverses this rejection with the new Claims 24-41, which are amended relative to the original claims to overcome the art of record.

The remarks above apply to this traversal, as well as the following. *Holtcamp* does not disclose the catalyst component as claimed. No combination of the art of record would arrive at Applicant's claimed catalyst component.

Alternatively, while *Holtcamp* discloses an embodiment of the supported activator as claimed, there is no motivation to combine *Holtcamp* with *Whiteker* (disclosing the most closely related compounds to Applicant's claimed catalyst compound), nor any expectation of success that any combination would achieve the high polymerization activity achieved by the presently claimed composition. Given that the type of compounds claimed by *Whiteker* are known to have a low activity relative to the metallocenes of *Holtcamp*, even when the *Whiteker* compounds are combined with excess MAO activator, there would be no expectation that using significantly less activator would be beneficial in olefin polymerization reactions. However, the Applicant demonstrates that this can in fact be accomplished.

Converting to the same units (g polymer/mmole cat·atm·hr), the Activity of the *Whiteker* catalyst (Example 1, in 300 MMAO excess) is only about 1300, whereas the catalyst of the present invention has an activity approaching 1000 (see Table 1) using a much lower ratio of

activator. Although these numbers are not directly comparable (given the different reaction conditions), it can be seen that the present invention provides a significant advantage in having a high activity while using a small amount of activator.

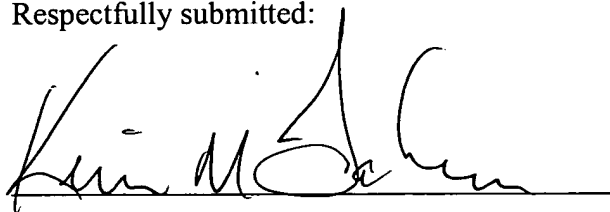
The relatively high activity of the presently claimed catalyst system is unexpected, and provides an advantage in economy, as well as an advantage in the resulting polymer having a much lower ash content, which is useful and advantageous. Further, the catalyst of the present invention offers a different range of polymer product relative to the metallocene catalysts of *Holtcamp*, thus advantageous. Given the lack of a finding of each claim element, a lack of motivation and expectation of success, present invention as claimed is patentable over the art of record. The Applicant thus requests that this rejection be withdrawn.

It is submitted that the case is in condition for allowance. The Applicant invites the Examiner to telephone the undersigned attorney if there are any other issues outstanding which have not been presented to the Examiner's satisfaction.

Respectfully submitted:

November 5, 2002

Date



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